Cefazolin

First generation cephalosporin; bactericidal, interferes with bacterial cell wall peptidoglycan synthesis by binding to penicillin-binding proteins. Active against some Gram-negative organisms including *Escherichia coli*, *Klebsiella spp.*, *Moraxella catarrhalis*, *Proteus mirabilis*; Gram-positive organisms including most Streptococci, MSSA and Staph saprophyticus; anaerobes including *Fusobacterium spp.*, *Prevotella melaninogenic*, *Propionibacterium spp.* - Not active against *Pseudomonas* or MRSA

WHEN TO CONSIDER TDM

Consider in critically ill patients, especially those with sepsis, trauma, burns, impaired renal function or undergoing dialysis and in patients with infective endocarditis to optimise dose. In addition, TDM should be undertaken in any patient undergoing long-term therapy.

PHARMACOKINETICS

(may be altered in critical illness and organ dysfunction)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absorption</td>
<td>NA - IV and IM only</td>
</tr>
<tr>
<td>Protein binding</td>
<td>73-86%</td>
</tr>
<tr>
<td>Clearance</td>
<td>Unchanged in urine &gt; 96%</td>
</tr>
<tr>
<td>Elimination t½</td>
<td>1 - 2 hours</td>
</tr>
</tbody>
</table>

SAMPLE COLLECTION TIME

Trough sample 24 hours after initiation or dose change.

REQUESTING & COLLECTION

Collect 4 mL in a purple top (EDTA) tube (no gel separator).

Important information required on request form:

1) Time and date of last dose
2) Time since last dose change/commencement
3) Time of blood sample collection
4) Dosing regimen (dose and frequency)

HANDLING & TRANSPORT

Sample must be delivered to laboratory within 1 hour of collection. If not delivered to the lab within 2 hours of collection, centrifuge, separate plasma and freeze within 3 hours of collection.

AVAILABILITY

Test generally performed 5 days a week (Monday to Friday). Specific days and timing should be confirmed with SydPath.

REFERENCE INTERVALS

Suggested Therapeutic Targets

Empiric therapy: 4 – 16mg/L

Note: Based on EUCAST breakpoints

Directed therapy: Trough >4 x MIC

Toxic Range: Lowest trough serum cefazolin level associated with seizure = 360 mg/L (case report)

CONTACT

Patient Results: (02) 8382 9100
Further information: www.sydpath.com.au - Test Database

INSTRUCTIONS FOR REFERRING LABORATORIES

Centrifuge, separate plasma within 3 hours of collection, store and transport plasma frozen.

Document approved: 24/5/2019

References:
4. The European Committee on Antimicrobial Susceptibility Testing.